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EXAMINER	
THOMPSON, JAMES A	
ART UNIT	**PAPER NUMBER**
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/734,591	NISHIDA, HIROBUMI	
	Examiner	Art Unit	
	James A. Thompson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 20, lines 7-15, filed 10 April 2006, with respect to the objections to the drawings and the objections to the specification have been fully considered and are persuasive. The objections to the drawings and the objections to the specification listed in items 2-3 of the previous office action, dated 04 January 2006 and mailed 10 January 2006, have been withdrawn.

2. Applicant's arguments filed 10 April 2006 have been fully considered but they are not persuasive. Examiner agrees with Applicant that Knox (US Patent 5,832,137) does not teach that the edge-detection information is obtained from the single side of the document, and in fact teaches away from obtaining edge-detection information from a single side of the document. However, obtaining edge-detection information from a single side of the document is a feature of the recited claims based on the present amendments to the claims. Furthermore, additional art had been discovered which does teach the limitations in dispute. As such, new grounds of rejection which have been necessitated by the present amendments to the claims are required. The new grounds of rejection are set forth in detail below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 5-6, 12-14, 16-17, 23-25, 27-28 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (US Patent 6,285,470 B1) in view of Zuniga (US Patent 5,280,367).

Regarding claims 1, 12, 23 and 34: Matsuda discloses an image processing apparatus (figure 1 of Matsuda). Figure 2 of Matsuda is a block diagram showing details of the control section of said apparatus (column 3, lines 30-31 of Matsuda).

Matsuda further discloses an edge detection unit (figure 2 (21(part)) of Matsuda) which detects an edge in a digital original image (figure 3b("character part") and column 5, lines 17-21 of Matsuda) obtained by digitally inputting only a single side of a document printed on both sides of paper (figure 1 and column 3, lines 59-65 of Matsuda). An opened book is read by the scanner (figure 1 and column 3, lines 59-65 of Matsuda), so only one side of the page is read. A character part is discriminated (column 5, lines 17-21 of Matsuda) as is a non-show-through base area (figure 3b("base area") and column 5, lines 25-30 of Matsuda). Characters are formed from purely black marks, so the character area would also correspond to any black edges that are read by the scanner. Furthermore, any edges of a grayscale value less than black would also be read by the scanner and be classified as part of the base area, since said base area is a separate and distinguishable element of the histogram (figure 3b of Matsuda).

Matsuda further discloses a background color estimation unit (figure 2(21(part)) of Matsuda) which estimates a background grayscale density of said paper or a background grayscale image on said single side (column 8, lines 18-24 of Matsuda) with respect to a low-intensity portion (figure 3b(Ls) of Matsuda) of said detected edge (figure 3b(Lp,Ls) and column 7, lines 15-22 of Matsuda); and an image replacement unit (figure 2(21 (part)) of Matsuda) which replaces the low portion of the edge intensity as a component corresponding to the show-through with said estimated background grayscale density or background grayscale image in said original image (column 8, lines 43-46 of Matsuda), wherein said image replacement unit removes said component corresponding to the show-through to generate said show-through removed image (column 9, lines 19-23 of Matsuda).

The show-through compensation operations of the apparatus, among other operations, are performed using a CPU (figure 2(21) and column 4, lines 48-53 of Matsuda). Therefore, said edge detection unit, said background color estimation unit, and said image replacement unit are the corresponding portions of the physically embodied software that are executed by the CPU, thus performing the functions of said edge detection unit, said background color estimation unit, and said image replacement unit.

Matsuda does not disclose expressly that said background color estimation is based solely upon edge-detection information from the single side of the document with respect to a portion with low intensity of said detected edge from the single side of the document; and reading color documents and processing color image data.

Zuniga discloses estimating background color estimation which is based solely upon edge-detection information from a

single side of the document (figure 2; figure 3; and column 4, lines 17-35 of Zuniga) with respect to a portion with low intensity of said detected edge from the single side of the document (figure 3(304,306) and column 4, lines 24-35 of Zuniga); and reading color documents and processing color image data (column 3, line 62 to column 4, line 5 of Zuniga). The detection of text components based on histogram data (figure 2; figure 3; and column 4, lines 17-35 of Zuniga) also detects edges since both text and edges are formed from color data which is significantly different from the background and from normal pictorial colors.

Matsuda and Zuniga are combinable because they are from the same field of endeavor, namely the scanning and processing of image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform background estimation for a color document image based solely on the edge detection information, as taught by Zuniga. The motivation for doing so would have been to be able to separate text and lines from background information in a scanned document (column 2, lines 3-5 of Zuniga), which has the benefit of allowing separate processing for text/edge portions and background portions, such as when a document is transmitted by facsimile (column 2, lines 14-16 of Zuniga). Furthermore, as is well-known in the art, separating text/edge portions from background portions is further beneficial since said separation allows for better compression of the digital data owing to the characteristic differences between background information and text/edge information. Therefore, it would have been obvious to combine Zuniga with Matsuda to obtain the invention as specified in claims 1, 12, 23 and 34.

Further regarding claim 1: The method of claim 1 is performed by the apparatus of claim 12.

Further regarding claim 23: The units of which the apparatus of claim 12 is comprised provide the corresponding means of which the apparatus of claim 23 is comprised.

Further regarding claim 34: The operations of said apparatus are implemented with a CPU (figure 2(21) and column 4, lines 48-53 of Matsuda), therefore it is inherent that some form of physically embodied software is used.

Regarding claims 2, 13 and 24: Matsuda discloses that said edge detection unit calculates edge intensity from each component of an image in which the edge is detected (figure 3b and column 5, lines 25-30 of Matsuda), and detects the edge considering a correlation between the respective edge intensity of said components (column 5, lines 21-26 of Matsuda). The intensities of each pixel of the image are calculated and recorded in a histogram (figure 3b and column 5, lines 17-22 of Matsuda). The edges (character portion) are detected based on a correlation between the components of the image as shown in the histogram peaks (figure 3b and column 5, lines 21-26 of Matsuda).

Regarding claims 3, 14 and 25: Matsuda discloses that said edge detection unit comprises a binarization unit (figure 2(21 (part)) of Matsuda) which binarizes the edge intensity (column 7, lines 59-62 of Matsuda).

Matsuda further discloses that said background color estimation unit comprises, in edge distribution (figures 3a-3c of Matsuda) in which a pixel with the edge intensity higher than a threshold (base density) is obtained as an ON pixel and a pixel with the edge intensity lower than the threshold is obtained as an OFF pixel (column 8, lines 43-48 of Matsuda), a window

setting unit (figure 2(21(part)) of Matsuda) which sets a window (figure 3b (Ls→Lp) of Matsuda) of a predetermined size (column 7, lines 28-33 of Matsuda) in a region (base area) of said OFF pixels (column 8, lines 43-44 of Matsuda). A window is set in the histogram (figures 3a-3c of Matsuda) between the peak brightness (Lp) and the base brightness (Ls), as shown in figures 3a-3c of Matsuda, said peak brightness and said base brightness defined by a specific relationship (column 7, lines 28-33 of Matsuda), and therefore a predetermined size. The base region is a region of OFF pixels (column 8, lines 43-44 of Matsuda), contrasted with the edge (character) region which has a much higher density (and therefore lower brightness) (column 8, lines 38-42 and 45-51 of Matsuda), as is also shown in figure 3b of Matsuda.

Said background color estimation unit further comprises a color clustering unit (figure 2(21(part)) of Matsuda) which classifies the pixels within each of said windows set by said window setting unit into two colors, particularly white and darker (column 8, lines 43-46 of Matsuda). All of the pixels with a density lower than the base value are classified as "white" and all pixels with a density higher than the base value are defined in a group corresponding to the γ curve (column 8, lines 48-51 of Matsuda).

Said background color estimation unit further comprises an estimation unit (figure 2(21(part)) of Matsuda) which estimates a color with higher brightness of said two colors as a back-ground color (column 8, lines 43-44 of Matsuda).

Matsuda further discloses that said image replacement unit comprises a pixel replacement unit (figure 2(21(part)) of Matsuda) which replaces the color of the pixels within each of

said windows with said estimated background color (column 8, lines 43-46 of Matsuda).

The various operations of the apparatus are performed using a CPU (figure 2(21) and column 4, lines 48-53 of Matsuda). Therefore, said binarization unit, said window setting unit, said color clustering unit, said estimation unit, and said pixel replacement unit correspond to the related physically embodied software that is executed by the CPU to perform the functions of said binarization unit, said window setting unit, said color clustering unit, said estimation unit, and said pixel replacement unit.

Regarding claims 5, 16 and 27: Matsuda discloses that said binarization unit has an automatic threshold setting unit (figure 2(21(portion of CPU and related embodied software)) of Matsuda) which statistically analyzes the distribution of the edge intensity and automatically sets the threshold (column 8, lines 47-51 of Matsuda). Using the γ curve, the relationship between the densities is established (column 8, lines 47-51 of Matsuda). Since the densities are quantized (column 7, lines 60-62 of Matsuda), said relationship therefore sets the threshold levels for each grayscale value based on the related density that is digitized.

Regarding claims 6, 17 and 28: Matsuda discloses that said binarization unit has a threshold setting unit (figure 2(21 (portion of CPU and related embodied software)) of Matsuda) by which a user sets the threshold according to a degree of show-through or paper quality (column 9, lines 1-9 of Matsuda). By selecting the level of base brightness, the user also selects the threshold of each of the gray scale levels since the base brightness is used to set the zero level (column 8, lines 43-44

of Matsuda) and a linear relation is used for the other gray scale levels (column 8, lines 45-51 of Matsuda).

5. Claims 4, 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (US Patent 6,285,470 B1) in view of Zuniga (US Patent 5,280,367) and Jin (US Patent 5,880,858).

Regarding claims 4, 15 and 26: Matsuda in view of Zuniga does not disclose expressly a horizontal run formation unit which forms a run in each line in the horizontal direction in the region of said OFF pixels; and a vertical run formation unit which forms a run in each line in the vertical direction, wherein said background color estimation unit estimates said background color or background color image using the horizontal (or vertical) runs formed by said horizontal run formation unit (or vertical run formation unit), further estimates a background color or a background color image using the vertical (horizontal) runs formed by said vertical run formation unit (or horizontal run formation unit) with respect to said estimated background color or background color image in the horizontal (or vertical) direction, and said pixel replacement unit replaces the pixels of said original image corresponding to said OFF pixels with pixels of said estimated background color or background color image in the vertical (or horizontal) direction.

Jin discloses a horizontal run formation unit which forms a run in each line in the horizontal direction in the region of OFF pixels (column 3, lines 35-38 of Jin). The OFF pixels of the horizontal row are determined since the ON pixels of the horizontal row are counted (column 3, lines 35-38 of Jin) and the size of the horizontal row is known (column 3, lines 20-23 of Jin).

Jin further discloses a vertical run formation unit which forms a run in each line in the vertical direction (column 3, lines 45-50 of Jin). The OFF pixels of the vertical column are determined since the ON pixels of the vertical column are counted (column 3, lines 45-50 of Jin) and the size of the vertical column is known (column 3, lines 20-23 of Jin).

The horizontal and vertical runs are performed by a digital scanner (column 3, lines 16-20 of Jin) which must therefore be controlled by some form of CPU. Said horizontal run formation unit and said vertical formation unit correspond to the portions of the related physically embodied software that is executed by the CPU to perform the functions of said horizontal run formation unit and said vertical formation unit.

Jin further discloses estimating said background region using the horizontal (or vertical) runs formed by said horizontal run formation unit (or vertical run formation unit) (figure 1b and column 3, lines 35-41 of Jin), further estimating a background region using the vertical (horizontal) runs formed by said vertical run formation unit (or horizontal run formation unit) with respect to said estimated background region in the horizontal (or vertical) direction (figure 1c and column 3, lines 45-52 of Jin).

Matsuda in view of Zuniga is combinable with Jin because they are from the same field of endeavor, namely image data scanning and processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use horizontal runs and vertical run to estimate background characteristics, as taught by Jin, said background characteristics being the background color, as taught by Matsuda in view of Zuniga. Therefore, when said pixel replacement unit replaces

the color of the pixels determined to be in the background with the estimated background color, said replacement will be performed with respect to said estimated background region in the horizontal (or vertical) direction. The motivation for doing so would have been to remove the interference to due background color (column 1, lines 33-35 of Jin) and be able to automatically delineate the non-background region of the image (column 1, lines 28-32 of Jin). Therefore, it would have been obvious to combine Jin with Matsuda in view of Zuniga to obtain the invention as specified in claims 4, 15 and 26.

6. Claims 7-9, 18-20 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (US Patent 6,285,470 B1) in view of Zuniga (US Patent 5,280,367) and Dhawan (US Patent 5,271,064).

Regarding claims 7, 18 and 29: Matsuda discloses an edge determination unit (figure 2(21(portion of CPU and related embodied software)) which detects an edge of said show-through removed image by said edge detection unit (figure 3b("show-through part") and column 5, lines 21-25 of Matsuda), compares said detected edge of the show-through removed image and the edge distribution of said original image (column 5, lines 46-52 of Matsuda), and determines an edge not existing on said original image (column 6, lines 30-33 of Matsuda). The edges of the show-through image are detected by the histogram (figure 3b ("show-through part") and column 5, lines 21-25 of Matsuda) wherein the pixel data of said edges are compared with the edges of the original image (figure 3b("character part") of Matsuda) and the background of the image (figure 3b("base area") of Matsuda) based on specific brightness criteria (column 5, lines

46-52 of Matsuda). The edge not appearing on the original image, and therefore in the show-through image, can therefore be determined (column 6, lines 30-33 of Matsuda).

Matsuda in view of Zuniga does not disclose expressly a repetition unit which generates again a show-through removed image about the periphery of the edge not existing said original image in said show-through removed image.

Dhawan discloses a repetition unit (figure 1(10) of Dhawan) which generates again an enhanced image (column 12, lines 10-13 of Dhawan) in order to further enhance said image in an iterative fashion (column 12, lines 13-19 of Dhawan).

Matsuda in view of Zuniga is combinable with Dhawan because they are from the same field of endeavor, namely image data processing and enhancement. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use iterative image enhancement, as taught in Dhawan, to repeatedly update the show-through removed image about the periphery of the edge not existing in said original. The motivation for doing so would have been to iteratively obtain a maximally enhanced image (column 12, lines 3-6 of Dhawan). Therefore, it would have been obvious to combine Dhawan with Matsuda in view of Zuniga to obtain the invention as specified in claims 7, 18 and 29.

Regarding claims 8, 19 and 30: Matsuda discloses that said edge determination unit subtracts edge intensity calculated in said original image from edge intensity calculated in said show-through removed image at each pixel (column 9, lines 6-9 of Matsuda), and determines any value higher than a predetermined threshold, in said show-through removed image, as an edge not existing in said original image (column 8, lines 43-44 and lines

60-62 of Matsuda). The user can select to completely subtract the show-through image (column 9, lines 6-9 of Matsuda), which would necessarily have to be at each pixel. Any density lower than the detected base density is set to white (column 8, lines 43-44 of Matsuda), said base density being detectable even under show-through image conditions (column 8, lines 60-62 of Matsuda). If the user selects to completely subtract the show-through image (column 9, lines 6-9 of Matsuda), then the entire show-through part would therefore be set to the background color.

Further regarding claims 9, 20 and 31: Dhawan discloses that said repetition unit sets the size of said window to a smaller value than that in the previous processing when an enhanced image is again generated (column 12, lines 16-25 of Dhawan). Image enhancement is performed, and processing time reduced, by iteratively adjusting the window (column 12, lines 16-23 of Dhawan). The number of data elements are reduced (column 12, lines 23-25 and column 11, lines 60-64 of Dhawan), thus resulting in a smaller window.

7. **Claims 10, 21 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (US Patent 6,285,470 B1) in view of Zuniga (US Patent 5,280,367) and Saito (US Patent 5,966,455).**

Regarding claims 10, 21 and 32: Matsuda in view of Zuniga does not disclose expressly an image reduction unit which generates a reduced original image with low resolution from said original image; a show-through region estimation unit which calculates a difference between a show-through removed image generated with respect to said reduced original image and said reduced original image to estimate a show-through region; and a pixel allocation unit which allocates pixels of said show-

through removed image, that correspond to said estimated show-through region, onto said original image with the original resolution.

Saito discloses an image reduction unit (figure 12(1106) of Saito) which generates a reduced original image with low resolution from said original image (column 10, line 66 to column 11, line 7 of Saito); a region estimation unit (figure 12(1107) of Saito) which calculates the properties of a region generated with respect to said reduced original image (column 11, lines 41-47 of Saito) in order to process said region based on the associated properties (column 12, lines 48-53 of Saito); and a pixel allocation unit (figure 12 (1111) of Saito) which allocates pixels of said processed image that correspond to said estimated region (column 14, lines 1-7 of Saito), onto said original image with the original resolution (column 14, lines 19-21 of Saito). The block combiner (figure 12(1111) of Saito) combines the blocks of each region (column 14, lines 1-7 of Saito) in order for said blocks to be output at the original input image resolution (column 14, lines 19-21 of Saito). In order to combine the blocks, said block combiner must allocate the pixels of the corresponding processed image. Otherwise, there will be no available memory to output the processed, block-combined image.

Matsuda in view of Zuniga is combinable with Saito because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use image reduction to analyze the image at a reduced resolution, as taught by Saito, said analysis being the show-through region analysis taught by Matsuda. Doing so would create an estimated,

reduced-resolution show-through removed image which is then used to create the original image at the original resolution. The pixel allocation unit of Saito would be used to combine the reduced-resolution blocks and allocate the required data to create the corrected image at the original resolution. The motivation for doing so would have been to reduce processing time and data storage requirements (column 14, lines 25-26 of Saito). Therefore, it would have been obvious to combine Saito with Matsuda in view of Zuniga to obtain the invention as specified in claims 10, 21 and 32.

8. **Claims 11, 22 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (US Patent 6,285,470 B1) in view of Zuniga (US Patent 5,280,367) and Allen (US Patent 6,044,172).**

Regarding claims 11, 22 and 33: Matsuda in view of Zuniga does not disclose expressly a coordinate system transformation unit which transforms the color coordinate system of said original image or said reduced original image to another color coordinate system such as a YCbCr coordinate system or a pseudo KL color coordinate system, in which the components are highly independent from one another; and a coordinate system reverse transformation unit which performs transformation reverse to said transformation on the show-through removed image with respect to the image transformed by said coordinate system transformation unit.

Allen discloses a coordinate system transformation unit (figure 1A(104A) of Allen) which transforms the color coordinate system of an image to another color coordinate system (column 4, lines 54-57 and lines 66-67 of Allen) in which the components are highly independent from one another (column 1, lines 13-18

and column 6, lines 39-42 of Allen); and a coordinate system reverse transformation unit (figure 1A(106A) of Allen) which performs transformation reverse to said transformation on a processed image with respect to the image transformed by said coordinate system transformation unit (column 5, lines 18-23 of Allen).

Matsuda in view of Zuniga is combinable with Allen because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to convert the color data into a more convenient color space for processing the color image data and then reverse transforming said processed color image data, as taught by Allen, said processing being the show-through image removal taught by Matsuda. The motivation for doing so would have been to convert the color image data into a form that is more easily processed given the type of processing to be performed (column 5, lines 2-4 of Allen). Therefore, it would have been obvious to combine Allen with Matsuda in view of Zuniga to obtain the invention as specified in claims 11, 22 and 33.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Suzuki et al, US Patent 5,742,704, 21 April 1998.

b. Shinji Yamakawa, US Patent 6,014,462, 11 January 2000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

14 June 2006

James A. Thompson
Examiner
Technology Division 2625

David Moore

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